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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,399	07/14/2003	Christopher Dean	205,905	7669

7590 01/21/2005

ABELMAN, FRAYNE & SCHWAB  
150 East 42nd Street  
New York, NY 10017

EXAMINER
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GRIFFIN, WALTER DEAN

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 01/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/619,399

Applicant(s)

DEAN, CHRISTOPHER

Examiner

Walter D. Griffin

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Objections*

Claim 5 is objected to because of the following informalities: The expression "the sulfur-containing hydrocarbons" contained in claim 5 is inconsistent with the expression "high-sulfur hydrocarbon" contained in claim 1. The examiner recommends that the claims be amended so that the language is consistent throughout. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crossland (US 5,837,130).

The Crossland reference discloses a process for hydrotreating petroleum fractions by employing catalyst beds contained in side draw columns. The process comprises withdrawing various fractions from a fractionator. These fractions, that necessarily contain at least some of the claimed sulfur compounds, are then introduced into a side column that contains a hydrodesulfurization catalyst. Hydrogen is also added to the side column. The fractions are then hydrodesulfurized in the side column. Desulfurized fractions are then recovered. See column 3, lines 21-50 and column 6, lines 10-54.

The Crossland reference does not disclose that the feed is an effluent from an FCC reactor, does not disclose the treatment of the claimed fractions, and does not disclose returning fractions to the fractionator. The Crossland reference also does not disclose that more than one hydrogen stream is added to the side column.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Crossland by treating a feed as claimed because such a feed is similar to the disclosed feed and therefore would be expected to be effectively treated in the process of Crossland.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Crossland by treating the claimed fractions in the side column because the claimed fractions are similar to the fractions treated in the process of Crossland. Therefore, the claimed fractions would be expected to be effectively treated in the side column of Crossland.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Crossland by returning fractions to the

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fractionator at any location because Crossland discloses that some products including naphtha are returned to the fractionator. By returning fractions to the fractionator including the claimed fractions, an increased amount of the desired product can be recovered.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Crossland by adding hydrogen at more than one location as claimed because Crossland suggests the feeding of hydrogen either below or above the catalyst. Therefore, one would expect that feeding hydrogen both above and below the catalyst would result in an effective process as long as the hydrogen effectively contacts the feed and catalyst.

Regarding the sulfur content of the recovered naphtha, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have produced products with the claimed content of sulfur because the process of Crossland is designed to desulfurize fractions. Therefore, one would adjust conditions in the Crossland process in order to produce a product with a desired content of sulfur.

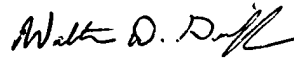
### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter D. Griffin whose telephone number is (571) 272-1447. The examiner can normally be reached on Monday-Friday 6:30 to 4:00 with alternate Fridays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Walter D. Griffin  
Primary Examiner  
Art Unit 1764

WG

January 18, 2005